REMARKS/ARGUMENTS

Reconsideration and continued examination of the above-identified application are respectfully requested.

By way of this amendment, claims 1-6, 12, 14, 16-21, 23-40, and 42-63 are pending. Claims 7-11, 13, 15, 22, and 41 have been canceled. Claims 23-39 have been withdrawn by the Examiner.

Claims 1-6 have been amended to recite an upper limit for the primary suboxide phase and support for this amendment can be found, for instance, in the claims as originally filed. Furthermore, claim 1 includes the limitation of claim 15. Also, claim 40 has been amended to include the limitation of claim 41. Accordingly, no questions of new matter should arise and entry of this amendment is respectfully requested.

Rejection of claims 40, 44-52, 57, 58, 62, and 63 under 35 U.S.C. §102(b) – Fife

At the bottom of page 3 of the Office Action, the Examiner rejects claims 40, 44-52, 57, 58, 62, and 63 under 35 U.S.C. §102(b) as being anticipated by Fife (WO 2000/15556). The Examiner asserts that Fife shows a reduced valve metal oxide powder having the parameters set forth in the pending claims, and further relies on Sample 18 of Fife. This rejection is respectfully traversed.

While the subject matter of claim 41 is now incorporated into claim 40, which would remove this rejection, the applicants wish to make one further point which will be relevant for future prosecution.

In the rejection, the Examiner rejected claim 40 and asserted that the powder of Fife shows the size range recited in claim 40 of the present application. The applicants respectfully disagree. It is important to note that claim 40 recites a valve metal oxide comprising "granules having a size of

from about 5 microns to about 1,000 microns." The term "granules" is described and defined in the present application. For instance, see paragraph [00042] and the paragraphs following this paragraph. A "granule," as that term is used in claim 40, relates to a valve metal oxide that is granulated or agglomerated. Paragraph [00042] describes various agglomeration techniques. Thus, the valve metal oxide recited in claim 40 is a collection of metal oxide powder particles that are agglomerated to form granules and these granules have a size of from 5 microns to 1,000 microns. It appears that the Examiner did not appreciate this term in claim 40. In addition, Fife does not teach or suggest any form of agglomeration occurring. The particular size range relied upon by the Examiner at page 15 relates to un-agglomerated powder, which the applicants would know since this reference is of the applicants and, further, the description in Example 1 does not describe any agglomeration technique occurring. Thus, Fife does not teach or suggest granules having a size of from about 5 microns to about 1,000 microns.

The Examiner's reliance on Sample 18 will be discussed in further detail below with respect to the §103 rejection, but it is noted that the Examiner misunderstood Sample 18 of Fife with regard to the presence of a metal phase in the metal oxide itself.

For these reasons, this rejection should be withdrawn.

Rejection of claims 1-22, 54-56, and 59-61 under 35 U.S.C. §103(a) -- Fife

The Examiner, at page 6 of the Office Action, then rejects the claims as being obvious in view of Fife and asserts that Fife shows that the main components are metal and suboxide phases and relies primarily on Sample 18 and Sample 13. Further, the Examiner asserts that it would be obvious to create suboxides of the purities set forth in the claims. This rejection is respectfully traversed.

The earlier comments regarding Fife apply equally here. Furthermore, with respect to Fife and Sample 18 of Fife, this sample does not show a metal phase being present in the suboxide. While Sample 18 shows an XRD showing the presence of Nb, it is important for the Examiner to appreciate that, at page 15 of the Fife reference, starting at line 25, the example states that Sample 18 used niobium as a getter material and that the getter material was a fine grained niobium powder "which was not separated from the final product." This part of the Fife reference further states that X-ray defraction showed that some of the getter material remained as Nb, but most was converted to $NbO_{1.1}$ and NbO. Thus, it is clear that the X-ray defraction data that shows the presence of niobium is with respect to the fine grained niobium powder which was not separated from the final product and which remained as niobium. Thus, Sample 18 of Fife actually shows a separate niobium powder co-existing with the niobium suboxide powder, which is different from the claimed invention, wherein the valve metal suboxide powder has a metal phase as part of the suboxide powder. Thus, with this understanding and explanation as literally set forth in the Fife reference, it is clear that Fife does not teach or suggest the claimed invention. Each of the suboxides formed in Fife was a complete conversion to a suboxide since there is no mention of a niobium phase being present in the suboxide.

For these reasons, this rejection should be withdrawn.

Rejection of claims 13 and 15-18 under 35 U.S.C. §103(a) -- Fife in view of Shimamune et al.

At page 9 of the Office Action, the Examiner rejects claims 13 and 15-18 under 35 U.S.C. §103(a) as being unpatentable over Fife in view of Shimamune et al. (U.S. Patent No. 5,441,670). The Examiner states that Fife does not show a valve metal phase which is below about 25%, but asserts that it would be obvious in view of Shimamune et al. This rejection is respectfully traversed.

As stated above, Fife does not show at all a metal phase present within the valve metal suboxide powder and, therefore, Fife alone or even combined with Shimamune et al. does not teach or suggest the subject matter of claims 15 (now present in claim 1) and 16-18. Further, Shimamune et al. relates to a physical mixture of various oxides which ultimately are combined and sintered, which is not the type of mixtures described in Fife. The niobium suboxides in Fife relate to suboxide phases existing in the same powder and do not relate to physical mixtures of oxides that are mixed together and then sintered together to achieve a powder mixture having various oxides. Thus, one skilled in the art would not combine Shimamune et al. with Fife considering that a different metal (namely, titanium oxide) is used and in view of the fact that Fife does not relate to combining various oxides together to form oxide mixtures. Furthermore, at col. 5 of Shimamune et al., there is a description of using tantalum oxide and niobium oxide which are Ta_2O_5 or Nb_2O_5. This is further shown in Table 1, at cols. 7-8, of Shimamune et al. These oxides are not suboxides and, therefore, are quite different from the suboxides of Fife. This would be a further reason showing why Fife cannot be merged with Shimamune et al. as suggested by the Examiner.

Accordingly, for these reasons, this rejection should be withdrawn.

Rejection of claims 41-43 under 35 U.S.C. §103(a) -- Fife (PCT) in view of Fife ('044)

At the bottom of page 9 of the Office Action, the Examiner rejects claims 41-43 under 35 U.S.C. §103(a) as being unpatentable over Fife (PCT) in view of Fife (U.S. Patent No. 6,051,044). The Examiner asserts that Fife (PCT) shows a granule size of no larger than 420 microns, but does not teach other size ranges or flows. The Examiner asserts that it would be obvious to combine Fife '044 with Fife (PCT). This rejection is respectfully traversed.

As stated above, Fife (PCT) does not teach or suggest any granules and, for this reason

alone, this rejection should be withdrawn. Furthermore, Fife '044 strictly relates to nitrided niobium powders, which are metal powders and not metal suboxide powders. The Examiner asserts that it would be obvious to use the sizes and flows set forth in Fife '044 in the Fife PCT reference since both relate to capacitors and both have similar "surface area, size, and composition." However, one skilled in the art would strongly disagree with the Examiner. First, the Fife PCT reference strictly relates to niobium suboxide powders and not metal powders. Niobium suboxide powders are ceramic materials and are not metal materials. Fife '044 strictly relates to metal powders, namely niobium powders, and not ceramics. The two materials are radically different from the standpoint of chemistry and physical properties. For the Examiner to take the approach that one can take the flow of a metal powder made in a completely different way and simply achieve this flow in suboxide powders made in an entirely different way is pure speculation, and certainly no motivation or suggestion is provided in either of the references. Powders of different materials have different flows. A ceramic material does not automatically have the same flow characteristics as a metal powder. The material of Fife '044 is made by a metal ingot which is grinded into powder, and this is quite different from the niobium suboxide powders of Fife PCT, which are heat treated to convert a niobium pentoxide into a niobium suboxide using a getter material. The Examiner has not stated how the flow of a nitrided niobium powder can be achieved in view of Fife '044 in the powder of Fife PCT. Certainly, neither reference provides a suggestion or solution to achieve this. The Examiner asserts that one can reasonably expect the flow of the product of Fife PCT to be the same as Fife '044, but this is not the case based on the above explanation with respect to the different chemistry and different processes of making. The Examiner states, at page 10, that the powder properties are very similar in terms of "composition," but this is incorrect as explained above. Therefore, the Examiner's conclusions are technically not correct from the standpoint of

combining these references.

For this reason, this rejection should be withdrawn.

Rejection of claim 53 under 35 U.S.C. §102(b) and §103(a) over Fife

At the bottom of page 10 of the Office Action, the Examiner rejects claim 53 under 35 U.S.C. §102(b) or U.S.C. §103(a) over Fife. This rejection is respectfully traversed.

For the reasons set forth above with respect to the patentability of claim 1 over Fife, this rejection should be withdrawn as well, since claim 53 is dependent on claim 1.

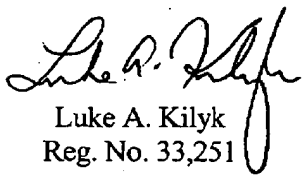
Accordingly, this rejection should be withdrawn.

CONCLUSION

In view of the foregoing remarks, the applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



Luke A. Kilyk
Reg. No. 33,251

Atty. Docket No. CPM03008 (3600-421-01)
KILYK & BOWERSOX, P.L.L.C.
400 Holiday Court, Suite 102
Warrenton, VA 20186
Tel.: (540) 428-1701
Fax: (540) 428-1720